PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P17924-PACO	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/EP 03/08553	International filing date *(day/month/year)* 01.08.2003	Priority date *(day/month/year)* 01.08.2003

International Patent Classification (IPC) or both national classification and IPC H04L29/06

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1. This International preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 11 sheets.

3. This report contains indications relating to the following items:

   I ☒ Basis of the opinion

   II ☐ Priority

   III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

   IV ☐ Lack of unity of invention

   V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

   VI ☐ Certain documents cited

   VII ☐ Certain defects in the international application

   VIII ☐ Certain observations on the international application

Date of submission of the demand 11.02.2005	Date of completion of this report 20.09.2005
Name and mailing address of the International preliminary examining authority: European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Lievens, K Telephone No. +31 70 340-4413

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.   PCT/EP 03/08553

I. Basis of the report

1. With regard to the **elements** of the international application *(Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*:

Description, Pages

1-47   as originally filed

Claims, Numbers

1-29   received on 13.07.2005 with letter of 11.07.2005

Drawings, Sheets

1/3-3/3   as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

☐   the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).

☐   the language of publication of the international application (under Rule 48.3(b)).

☐   the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐   contained in the international application in written form.

☐   filed together with the international application in computer readable form.

☐   furnished subsequently to this Authority in written form.

☐   furnished subsequently to this Authority in computer readable form.

☐   The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐   The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

☐   the description,   pages:

☐   the claims,   Nos.:

☐   the drawings,   sheets:

Form PCT/IPEA/409 (January 2004)

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

   (Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-29
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-29
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-29
	No:	Claims	

2. Citations and explanations

   see separate sheet

V. **Reasoned Statement under Article 35 (2) and Rule 70.8 PCT with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement**

1   The following document is referred to in the present report:

D1: US-B1-6 282 574 (VOIT ERIC A) 28 August 2001

2   In view of the prior art documents presently on file, the subject matter of amended claims 1-29 appears to meet the criteria of novelty, inventive step and industrial applicability, as defined in Article 33(2) to (4) PCT:

2.1 INDEPENDENT CLAIM 1:
The document D1 is considered closest prior art for the subject matter of claim 1, and discloses (the references in parentheses applying to this document):

A method for routing in a telecommunications system a service request related to a service (abstract; column 4, line 37 - column 6, line 26; column 9, lines 5-51), comprising the steps of:
- receiving in a communication server entity a service request containing a service identifier,SID, which identifies said service (abstract; column 4, line 37 - column 6, line 26; column 9, lines 5-51),
 - obtaining addressing information, AI, related to said service identifier (abstract; column 4, line 37 - column 6, line 26; column 10, lines 22-51), and
- routing said service request using said addressing information (abstract; column 4, line 37 - column 6, line 26);
the method further comprising the step of:
- checking a usage rule, UR which grants the usage of said addressing information (abstract; column 4, line 37 - column 6, line 26; column 9, line 5 - column 11, line 55; column 15, line 66 - column 16, line 46),
wherein the step of routing said service request is performed if said check is passed (abstract; column 4, line 37 - column 6, line 26; column 9, line 5 - column 11, line 55; column 15, line 66 - column 16, line 46).

The subject mater of claim 1 differs from this known method in that said usage rule comprises at least one use condition selected from:
- a third time condition (T3) determining the maximum time gap for using said addressing information from the first time it is used,

- a maximum usage condition (M) determining the number of times said addressing information can be used

Hence, the subject-matter of claim 1 is new in the sense of Article 33(2) PCT.

The objective problem to be solved by the present invention may be regarded as how to automatically limit the rate of service requests arriving to a given application server, without using fixed, user-defined time-windows.

The solution to this problem proposed in claim 1 is considered as involving an inventive step because neither the objective problem, nor the distinguishing features are know from or hinted at in the available prior art (Article 33(3) PCT).

2.2   INDEPENDENT CLAIMS 13, 21, 27, 28, 29:
These independent claims essentially restate the subject matter of claim 1 in terms of a location server entity (claim 13), respectively a communication server entity (claim 21), respectively an application server entity (claim 27), a computer program for providing information for routing a service request (claim 28) and a computer program for routing a service request (claim 29). Therefore, the above arguments with respect to the novelty and the non-obviousness of the subject matter of claim 1, similarly apply to said claims. Consequently, the subject matter of claims 13, 21, 27, 28 and 29 is also new (Article 33(2) PCT) and inventive (Article 33(3) PCT).

2.3   Dependent claims 2-12, 14-20 and 22-26 are truly dependent from the corresponding independent claims and, hence, also meet the requirements of the PCT in respect of novelty and inventive step (Article 33(2) and (3) PCT).

CLAIMS

1. A method for routing in a telecommunications system a service request related to a service, comprising the steps of:

   5
   - receiving (f2,g3,h2,h5) in a communication server entity (CS,CS1,CS2) a service request containing a service identifier (SID) which identifies said service,
   - obtaining (f3-f4, h3-h4, h5a-h5b, g2) addressing information (AI) related to said service identifier,
   10 and
   - routing (f5,g4,h5,h6) said service request using said addressing information;
   CHARACTERIZED in that it further comprises the step of:
   - checking a usage rule (UR) which grants the usage of
   15 said addressing information,
   wherein the usage rule comprises at least one use condition selected from:
     - a third time condition (T3) determining the maximum time gap for using said addressing information from
   20   the first time it is used,
     - a maximum usage condition (M) determining the number of times said addressing information can be used,
   and wherein the step of routing said service request is performed if said check is passed.

   25 2. The method of claim 1, wherein said usage rule further comprises at least one use condition selected from:
   - a first time condition (T1) determining a start time for using said addressing information,
   - a second time condition (T2) determining a stop time
   30 for using said addressing information,
   - a requesting user condition (U) stating at least one user identifier of at least one user and determining that said user is authorized to use said service.

3. The method of claim 1, wherein said addressing information comprises at least one elementselected from:

   - an address (AA) of an application server entity (AS) which hosts said service,
   - an address (AC) of a communication server entity (CS2) which can intervene in the routing of a service request containing said service identifier,
   - an address-determining-capability (AD) usable to determine an address of a communication server entity (CS2) which can intervene in the routing of a service request containing said service identifier.

4. The method of any of claims 1 to 3, further comprising the previous step of:

   - storing in a location server entity (LS) said service identifier, said addressing information, and said usage rule.

5. The method of claim 4, further comprising the previous step of:

   - receiving (f1,g1,h1) said usage rule in said location server entity from an application server entity (AS).

6. The method of claims 4 or 5, wherein the step of checking said usage rule is performed in said location server entity.

7. The method of claim 6, wherein the step of obtaining addressing information comprises the steps of:
   - sending (f3,h3,h5a) from said communication server entity a location query containing said service identifier to said location server entity, and
   - receiving (f4,h4,h5b) a query response in said communication server entity containing said addressing information if said check is passed.

8. The method of claim 6, wherein the step of obtaining addressing information comprises the steps of:
- transmitting (f3,h3,h5a) from said communication server entity said received service request to said location server entity, and
- receiving (f4,h4,h5b) a redirection indication in said communication server entity containing said addressing information if said check is passed.

9. The method of any of claims 1 to 3, further comprising the previous step of:
- storing in said communication server entity (CS,CS2) said service identifier, and said usage rule.

10. The method of claim 9, further comprising the previous step of:
- receiving (g2,h2a) said usage rule in said communication server entity from a location server entity.

11. The method of claim 9, further comprising the previous step of:
- receiving (f1a,g1a,h1a) said usage rule in said communication server entity from an application server entity.

12. The method of any of claims 9 to 11, wherein the step of checking said usage rule is performed in said communication server entity.

13. A location server entity (LS) having:
   - storage means, arranged to store addressing information (AI) related to a service identifier (SID) which identifies a service, and
   - processing means, arranged to access said storage means to provide said addressing information, wherein:- said storage means further store a usage rule (UR) for granting the use of said addressing information, and
   - said processing means are further arranged to check said usage rule to determine whether or not said addressing information can be provided; CHARACTERIZED in that the usage rule comprises at least one use condition selected from:
      - a third time condition (T3) determining in said location server entity the maximum time gap for providing said addressing information from the first time it is provided from said location server,
      - a maximum usage condition (M) determining in said location server entity the number of times said addressing information can be provided from said location server entity, wherein said processing means are arranged to check at least one of said conditions.

14. The location server entity of claim 13, wherein said usage rule further comprises at least one use condition selected from:
   - a first time condition (T1) determining in said location server entity a start time for providing said addressing information,
   - a second time condition (T2) determining in said location server entity a stop time for providing said addressing information,

AMENDED SHEET

- a requesting user condition (U) stating at least one user identifier of at least one user and determining in said location server entity whether said user is authorized to use said service;

5   and wherein said processing means are further arranged to check at least one of said conditions.

15. The location server entity of claim 13, wherein said addressing information comprises at least oneelement selected from:

10   - an address (AA) of an application server entity (AS) which hosts said service,

- an address (AC) of a communication server entity (CS2) which can intervene in the routing of a service request containing said service identifier,

15   - an address-determining-capability (AD) usable to determine an address of a communication server entity (CS2) which can intervene in the routing of a service request containing said service identifier.

16. The location server entity of any of claims 13 to 15,
20   further arranged to receive and store a usage rule in relationship with a service identifier.

17. The location server entity of claim 16, further arranged to receive said usage rule from an application server entity.

25 18. The location server entity of any of claims 13 to 17, further arranged to transmit a usage rule in relationship with a service identifier to a communication server entity which can intervene in a service request containing said service identifier.

30 19. The location server entity of any of claims 13 to 17, further arranged to receive a location query containing said service identifier and to answer with a query

response containing said addressing information if said
check is passed.

20. The location server entity of any of claims 13 to 17,
    further arranged to receive a service request
5   containing said service identifier and to answer with a
    redirection indication containing said addressing
    information if said check is passed.

21. A communication server entity (CS,CS1,CS2) having
processing means arranged to:
- receive a service request containing a service
identifier (SID) which identifies a service,
5   - obtain addressing information (AI) related to said
service identifier, and
- route a received service request using said
addressing information,
- obtain a usage rule (UR) for granting the use of said
10   addressing information, and
- check said usage rule to determine whether or not to
route a received service request containing said
service identifier;
CHARACTERIZED in that the usage rule comprises at least
15   one use condition selected from:
    - a third time condition (T3) determining in said
    communication server entity the maximum time gap for
    routing service requests containing said service
    identifier from the first time a service request
20   containing said service identifier has been routed
    from said communication server entity,
    - a maximum usage (M) condition determining in said
    communication server entity the number of times it can
    route service requests containing said service
25   identifier,
wherein said processing means are arranged to check at
least one of said conditions.

22. The communication server entity claim 21, wherein said
usage rule further comprises at least one use condition
30   selected from:
    - a first time condition (T1) determining in said
    communication server entity a start time for routing
    service requests containing said service identifier,

AMENDED SHEET

- a second time condition (T2) determining in said
communication server entity a stop time for routing
service requests containing said service identifier,
- a requesting user condition (U) stating at least one
5   user identifier of at least one user and determining in
said location server entity whether said user is
authorized to send a service request containing said
service identifier;
and wherein said processing means are further arranged
10   to check at least one of said conditions.

23. The communication server entity of claims 21 or 22,
further arranged to send a location query to a location
server to obtain said addressing information and said
usage rule.

15 24. The communication server entity of claims 21 or 22,
further comprising storage means arranged to store said
usage rule in relationship with said service
identifier, wherein said processing means are further
arranged to obtain said usage rule from said storage
20   means.

25. The communication server entity of claim 24, further
arranged to receive said usage rule from a location
server entity and to store it in said storage means.

26. The communication server entity of claim 24, further
25   arranged to receive said usage rule from an application
server entity and to store it in said storage means.

27. An application server entity (AS) having processing
    means arranged to exchange information with a second
    server entity (LS,CS,CS2) which can intervene in the
    signaling of a service request related to a service;
 5 CHARACTERIZED in that said processing means are further
    arranged to send to said second server entity a usage
    rule (UR) in relationship with a service identifier
    (SID) for granting the use of the addressing
    information (AI) usable for routing a service request
10 containing said service identifier,
    wherein the usage rule comprises at least one use
    condition selected from:
       - a third time condition (T3) determining the maximum
       time gap for using said addressing information from
15   the first time it is used,
       - a maximum usage condition (M) determining the number
       of times said addressing information can be used.

28. A computer program for providing information for
    routing a service request containing a service
    identifier (SID) which identifies a service,
    comprising:

5   - a computer-readable program code for causing a
    computer-based location server to provide addressing
    information (AI) related to said service identifier;
    CHARACTERIZED in that it further comprises:
    - a computer-readable program code for causing said

10 computer-based location server to check a usage rule
    (UR) which grants the usage of said addressing
    information to determine whether or not said addressing
    information can be provided,
    wherein the usage rule comprises at least one use

15 condition, or any combination thereof, selected from:
      - a third time condition (T3) determining the maximum
      time gap for using said addressing information from
      the first time it is used,
      - a maximum usage condition (M) determining the number

20   of times said addressing information can be used.

29. A computer program for routing a service request
    containing a service identifier (SID) which identifies
    a service, comprising:
    - a computer-readable program code for causing a

25 computer-based communication server to obtain
    addressing information (AI) related to said service
    identifier, and
    - a computer-readable program code for causing said
    computer-based communication server to route the

30 received service request using said addressing
    information;
    CHARACTERIZED in that it further comprises:
    - a computer-readable program code for causing said
    computer-based communication server to obtain a usage

AMENDED SHEET

rule (UR) which grants the usage of said addressing information, and

- a computer-readable program code for causing said computer-based communication server to check said usage

5   rule to determine whether or not to route a received service request containing said service identifier, wherein the usage rule comprises at least one use condition selected from:

    - a third time condition (T3) determining the maximum
10   time gap for using said addressing information from the first time it is used,
    - a maximum usage condition (M) determining the number of times said addressing information can be used.

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